CURRICULUM VITAE

Funcţia in cadrul Programului: Participant
1. Nume: Bucur
2. Prenume: Bogdan
3. Data şi locul naşterii: 05/11/1975-Costeşti, Argeş
4. Cetăţenie: Română
5. Stare civilă: Căsătorit
6. Studii:

Instituţia	Facultatea de Chimie, Universitatea din Bucuresti			BIOMEM, Centrul de Fitofarmacie, Universitatea din Perpignan, Franta
Perioada:	Oct. 1994-Iun. 1998	Oct. 1999-Iun. 2001	Dec. 2000-Sept. 2005	Oct. 2002 – Sept. 2005
Grade sau diplome obţinute	Licenta	Master	Doctor	Doctor cu mentiunea "*Très Honorable avec Félicitation du Jury*"

7. Titlul ştiinţific: Doctor
8. Experienţa profesională:

Perioada:	**Locul:**	**Instituţia:**	**Funcţia:**	**Descriere:**
Martie 2008-prezent	Bucuresti	Institutul National de Cercetare Dezvoltare Stiinte Biologice, Bucuresti, INCDSB	CSI (2017), CS II (2012)	Cercetare în domeniul biosenzorilor enzimatici
Martie 2007-Febr. 2008	Paris, Franta	Universitatea Pierre et Marie Curie-Paris VI, LISE (Laboratoire Interfaces et Systèmes Electrochimiques), UMR 8235 CNRS	Cercetator post-doc	Cercetare in domeniul biosenzorilor bazati pe ADN
Nov. 2005-Febr 2007	Bucuresti	Institutul National de Cercetare Dezvoltare Stiinte Biologice, Bucuresti, INCDSB	Cercetător ştiinţific	Cercetare în domeniul biosenzorilor enzimatici
Dec. 2005-Febr. 2007	Bucuresti	Facultatea de Chimie, Universitatea Politehnica Bucuresti, UPB	Cercetator post-doc	Cercetare în domeniul biosenzorilor enzimatici
Febr. 2003-iunie 2005	Perpignan, Franţa	Institut Universitar de Tehnologie (IUT), Universitatea din Perpignan	Cadru didactic asociat	121 ore lucrari practice pentru studentii din anul I (biochimie).
Mart. 1999-nov. 1999	Piteşti – Albota	Staţiunea pentru Cercetări Cereale şi Plante Tehnice	Inginer Chimist	Analize sol, plante şi ape

9. Locul de muncă actual şi funcţia: Institutul National de Cercetare Dezvoltare Stiinte Biologice, Bucuresti, INCDSB -Cercetător ştiinţific I
10 . Vechime la locul de muncă actual: 20 ani
11. Brevete de invenţii: 4
12. Lucrări publicate: http://www.researcherid.com/rid/B-8151-2009
14. Membru al asociaţiilor profesionale: Nu
14. Limbi straine cunoscute: engleză, franceză
15. Alte competenţe: cunostinţe operare calculator
16. Specializări şi calificări:
-Calificare **Maître de conférences** de catre Ministerul Educatiei din Franta pentru Sectia 31 (Chimie teoretica, fizica si analitica) Nr. 08231184939/2008 si pentru Sectia 64 - Biochimie et biologie moleculara Nr. 09264184939/2009
-Referent pentru: Biosensors and Bioelectronics, Electrochimica Acta, European Food Research and Technology, Aquaculture, Analytical letters, Microchimica Acta, Sensors

17. Experienţa acumulată în alte programe

A) Internaţionale:

Programul/Proiectul	Perioada:	Funcţia
Romania-France bilateral programme Brancusi: "*Biosenzori enzimatici pentru determinarea sensibila si selectiva a substantelor toxice*" ENZYTOX (487/2011)	2011-1012	**Director de proiect**
FP7:" *Biosensors and sensors for the industrial biosynthesis process of widely used commercial antioxidants: Nutraceuticals as additives for food and aquaculture promoting public health and safety*", 232522, SENSBIOSYN	2009-2011	Membru in echipa
"*Biocapteurs pour la détection d'éléments toxiques*" (HABSEACHIP), ANR PRECODD (Agentia nationala pentru Cercetare); Franta	2007-2008	Membru in echipa
FP6:"*Ready to eat food for breakfast and sport activity with high content of nutraceutics preventing disease and promoting public health*", 023044, NUTRA-SNAKS	2006-2009	Membru in echipa
FP5: "*Novel Technology for Controlling Wine Production and Quality*", HPRN-CT-2002-00186, NOVTECH	2004-2005	Membru in echipa
FP5: "*Sensor Arrays For Environmental, Generic And Routine Detection of Pesticides*", QLK3-CT-2000-00481, SAFEGARD	2001-2004	Membru in echipa
Leonardo da Vinci: "*Training module for environmental pollution contro*l", contract nr. RO/02/B/F/PP-141004	2003-2005	Membru in echipa
FP5: "*New biosensors for improved detection of environmental contamination by anticholinesterase pesticides*", QLK3-2000-00650, ACHEB	2000-2004	Membru in echipa
FP4: "*Flow Injection Methods of Analysis for the Improvement the Quality Control of Drinking Water*", INCO-Copernicus ERBIC 15CT980119	1998-2000	Membru in echipa

B) Naţionale:

Programul/Proiectul	Perioada:	Funcţia
"Integrated research and sustainable solutions to protect and restore Lower Danube Basin and coastal Black Sea ecosystems/ Cercetare integrată și soluții sustenabile pentru protecția și restaurarea ecosistemelor din bazinul inferior al Dunării - zona costieră a Mării Negre", cod 18/16.11.2022, finanțat prin Planul Național de Redresare și Reziliență Apel nr. PNRR-III-C9-2022 – I5	2023-2026	**Responsabil de proiect**
"*Detectarea sensibila si selectiva a insecticide neurotoxice bazata pe biosenzori cu colinesteraza cuplati cu extractie in faza solida (Cholin-SP)*" PN-III-P2-2.1-PED-2016-0367; Contract UEFISCDI nr. 45PED / 2017	2017-2018	**Director de proiect**
"*Noi polimeri imprentati molecular (MIPs) dezvoltati pentru analiza sensibila si rapida a antibioticelor din clasa nitrofuranilor (NITROMIP)*" PN-II-PT-PCCA-2013-4-0203; Contract UEFISCDI Nr. 197/2014	2014-2017	**Responsabil de proiect**
"*Noi biosenzori pentru analiza unor substante toxice mai putin investigate din alimente*" TE-100; Contract UEFISCDI Nr. 4/2010	2010-2013	**Director de proiect**
"*Micro-biosenzori pentru detectia de pesticide in probe de mediu si alimente (MICROSEN)*" Contract PNCDI 2 Nr. 11049-01-2007	2007-2010	**Responsabil de proiect**
"*Metode rapide de monitorizare a toxinelor pe parcursul etapelor tehnologice de procesare a alimentelor pentru cresterea sigurantei acestora (SAFEFOOD)*" Contract PNCDI 2 Nr. 61-030-2007	2007-2010	Membru in echipa
"*Retea de biosenzori amperometrici pentru analiza simultana a*	2006-2008	**Responsabil**

metanolului si etanolului (BAME)", Contract CEEX Nr. 156/2006		**de proiect**
"*Sistem biomimetic pentru detectia selectiva si sensibila a unor agenti toxici de tip organofosforic (BIOSIF)"*, Contract Nr. 35/2005-Romanian Space Agency	2005-2006	Membru in echipa
"*Caracterizarea analitica a unor biosisteme redox pentru aplicatii practice"*, Contract Nr. 3163/2005-UEFISCU, proiect pentru cercetatori post-doctorali	2005-2007	Cercetator post-doctoral
"*Senzor fluorescent pentru determinarea presiunii parţiale a oxigenului*", Contract Nr. 3-137/2003-CERES	2003-2005	Membru in echipa
"Senzori amperometrici bazati pe straturi autoasamblate pentru determinarea fenolilor din ape", Contract Nr. 39339 /2002, grant ANSTI pentru studenti la doctorat (Td)	2002-2004	**Director**
"*Tehnici in flux pentru preconcentrarea si tratamentul chimic al probelor in monitorizarea poluarii mediului*", Contract 6154/2000, ANSTI	2000-2003	Membru in echipa
"*Senzori chimici si biochimici pentru analiza automata in flux cu aplicatii in controlul calitatii produselor si al poluarii mediului*", Contract 37116/2000, CNCSIS	2000-2002	Membru in echipa
"*Metode automate de analiza in flux a insecticidelor organofosforice si fenolilor din ape*", Contract No. 6154/20.10.2000, grant ANSTI pentru studenti (Ts)	2000-2001	**Director**

Articole, brevete si comunicari:

<u>Articole de rang A:</u>

1. M. C. Radulescu, M. P. Bucur, **B. Bucur**, A. Iosageanu, G. L. Radu: "*4-Phenyl isothiocyanate modified electrode based on diazonium electrodeposition for heavy metals detection in pharmaceuticals*" Talanta, 295, 128339 (2025). DOI: 10.1016/j.talanta.2025.128339

2. M. P. Bucur, M. C. Radulescu, **B. Bucur**, G. L. Radu: "*Acetylcholinesterase and butyrylcholinesterase co-immobilized on a copper containing Prussian blue modified electrode for the broad screening of insecticides*" Analytical Bioanalytical Chemistry, 416, 5059–5070 (2024). DOI: 10.1007/s00216-024-05443-1

3. M. C. Radulescu, M. P. Bucur, **B. Bucur**, G. L. Radu: "*Electrochemical Detection Of Heavy Metals In Raw Materials Using a Glassy Carbon Electrode Modified With 4-Aminothiophenol*", Journal of The Electrochemical Society, 169, 106513, 2022, DOI: 10.1149/1945-7111/ac9716

4. M. P. Bucur, **B. Bucur**, E. Bacalum, V. David, G. L. Radu: „*Ternary water–organic solvent mixtures used for insecticide SPE extraction and analysis with acetylcholinesterase biosensor*", Analytical Biochemistry, 654, 2022, 114843, DOI: 10.1016/j.ab.2022.114843

5. M. C. Radulescu, M. P. Bucur, **B. Bucur**, G. L. Radu: "*Rapid Determination of 5-Nitrofuran Ring Antibiotics in Complex Samples Using a Boron-Doped Diamond Electrode and Differential Pulse Voltammetry*", Analytical Letters, 2021, 54(14), 2363-2375, DOI: 10.1080/00032719.2020.1862140

6. A. Chira, **B. Bucur**, G.-L. Radu: "*Investigation of the corrosion inhibition properties of new phenyl aldehyde organic layers functionalized with different amino alcohols electrodeposited on copper*", Comptes Rendus Chimie, 2021, 24(1), 21-31 DOI: 10.5802/crchim.59

7. M. C. Radulescu, M. P. Bucur, **B. Bucur**, G. L. Radu: "*Ester flavorants detection in foods with a bienzymatic biosensor based on a stable Prussian blue-copper electrodeposited on carbon paper electrode*", Talanta 199 (2019) 541–546 DOI: 10.1016/j.talanta.2019.02.094

8. M.-P. Bucur, **B. Bucur**, G.-L. Radu: "*Simple, selective and fast detection of acrylamide based on glutathione S-transferase*", RSC Advances, 8, 23931-23936, 2018; DOI: 10.1039/C8RA02252F

9. E. Rusen, A. Diacon, A. Mocanu, F. Rizea, **B. Bucur**, M. P. Bucur, G.-L. Radu, E. Bacalum, M. Cheregi, V. David: "*Synthesis and retention properties of molecularly imprinted polymers for antibiotics containing a 5-nitrofuran ring*", RSC Advances, 2017, 7, 50844–50852, DOI: 10.1039/c7ra10196a

10. A. Chira, **B. Bucur**, G.-L. Radu: "*Electrodeposited Organic Layers Formed from Aryl Diazonium Salts for Inhibition of Copper Corrosion*", Materials, 10, 235, 2017; DOI: 10.3390/ma10030235

11. M. C. Radulescu, M. P. Bucur, A. Alecu, **B. Bucur**, G. L. Radu: "*Electrochemical Determination of Hydrogen Peroxide Using a Prussian Blue-Copper Modified Platinum Microelectrode*", Analytical Letters, 49(13), 2006-2017, 2016; DOI: 10.1080/00032719.2015.1131706

12. M.P. Bucur, M.C. Radulescu, **B. Bucur**, G.L. Radu: „*Low-interferences Determination of the Antioxidant Capacity in Fruits Juices Based on Xanthine Oxidase and Mediated Amperometric Measurements in the Reduction Mode*", Analytical Sciences, 32(2), 135-140, 2016; DOI: 10.2116/analsci.32.135

13. M.C. Radulescu, M.P. Bucur, **B. Bucur**, G.L. Radu: „*Biosensor based on inhibition of monoamineoxidases A and B for detection of β-carbolines*", Talanta 137, 94–99, 2015; DOI: 10.1016/j.talanta.2015.02.013

14. A. Chira, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Electrode-modified with nanoparticles composed of 4,4'-bipyridine-silver coordination polymer for sensitive determination of Hg(II), Cu(II) and Pb(II)"*, New Journal of Chemistry, 38(11), 5641-5646, 2014 DOI: 10.1039/c4nj01245c

15. I. Mihai, A. Vezeanu, C. Polonschii, S. David, S. Gáspár, **B. Bucur**, C. Blaszykowski, S. Sheikh, M. Thompson, A. Vasilescu: "*Low-Fouling SPR Detection of Lysozyme and Its Aggregates*", Analytical Methods, 6, 7646–7654, 2014; DOI: 10.1039/C4AY01237B

16. A. Chira, B. Bucur, M. C. Radulescu, T. Galaon, G.L. Radu: "*Study of Electrochemically Modified Electrode with Synthesized N-benzyl-4,4'-bipyridine with Anti-Fouling Properties for Oxygen and Hydrogen Peroxide Detection*", International Journal of Electrochemical Science, 9, 4493 – 4511, 2014 DOI:10.1016/S1452-3981(23)08108-7

17. M. C. Radulescu, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Bienzymatic Biosensor for Rapid Detection of Aspartame by Flow Injection Analysis*", Sensors, 14, 1028-1038, 2014; DOI: 10.3390/s140101028

18. O. I. Covaci, **B. Bucur**, G. L. Radu: "*Acrolein detection based on alcohol dehydrogenase inhibition*", International Journal of Environmental Analytical Chemistry, 93(3), 325-334, 2013; DOI:10.1080/03067319.2011.581374

19. M. P. Bucur, **B. Bucur**, G. L. Radu: "*Critical Evaluation of Acetylthiocholine Iodide and Acetylthiocholine Chloride as Substrates for Amperometric Biosensors Based on Acetylcholinesterase*", Sensors ,13, 1603-1613, 2013; DOI:10.3390/s130201603

20. O. I. Covaci, A. Sassolas, G. A. Alonso, R. Muñoz, G. L. Radu, **B. Bucur**, J. L. Marty: "*Highly sensitive detection and discrimination of LR and YR microcystins based on protein phosphatases and an artificial neural network*", Analytical and Bioanalytical Chemistry, 404, 711–720, 2012; DOI 10.1007/s00216-012-6092-6

21. G. García-Martinez, E.A. Bustabad, H. Perrot, C. Gabrielli, **B. Bucur**, M. Lazerges, D. Rose, L. Rodriguez-Pardo, J. Fariña, C. Compère, A.A. Vives: "*Development of a Mass Sensitive Quartz Crystal Microbalance (QCM)-Based DNA Biosensor Using a 50 MHz Electronic Oscillator Circuit*" Sensors, 11(8), 7656-7664, 2011; DOI:10.3390/s110807656

22. M. C. Radulescu, A. Chira, M. Radulescu, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Determination of Silver(I) by Differential Pulse Voltammetry Using a Glassy Carbon Electrode Modified with Synthesized N-(2-Aminoethyl)-4,4'-Bipyridine*", Sensors, 10(12), 11340-11351, 2010; DOI: 10.3390/s101211340

23. M. P. Bucur, **B. Bucur**, C. M. Radulescu, O. I. Covaci, G. L. Radu: "*L-cysteine determination based on tyrosinase amperometric biosensors without interferences from thiolic compounds*", Analytical Letters, 43(15), 2440–2455, 2010; DOI: 10.1080/00032711003725540

24. O. I. Covaci, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Optimization of acetylcholinesterase immobilization on microelectrodes based on nitrophenyl diazonium for sensitive organophosphate insecticides detection*", Microchimica Acta, 169(3), 335-343, 2010 ; DOI: 10.1007/s00604-010-0336-y

25. M. C. Radulescu, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Quality control method based on quartz crystal microbalance and WGA for flour milled from germinated wheat*", European Food Research and Technology, 229, 833–840, 2009; DOI: 10.1007/s00217-009-1120-2

26. **B. Bucur**, G. L. Radu, C. N. Toader: "*Analysis of methanol–ethanol mixtures from falsified beverages using a dual biosensors amperometric system based on alcohol dehydrogenase and alcohol oxidase*", European Food Research and Technology, 226, 1335-1342, 2008; DOI: 10.1007/s00217-007-0662-4

27. M. P. Dondoi, **B. Bucur**, A. F. Danet, C. N. Toader, L Barthelmebs, J. L. Marty: "*Organophosphorous insecticides extraction and oxidation on column for analysis with a acetylcholinesterase (AChE) biosensor*", Analytica Chimica Acta, 578(2), 162–169, 2006; DOI: 10.1016/j.aca.2006.07.002

28. **B. Bucur**, D. Fournier, A. F. Danet, J.-L. Marty: *"Biosensors based on highly sensitive acetylcholinesterases for enhanced carbamate insecticides detection*", Analytica Chimica Acta, 562(1), 115-121, 2006; DOI: 10.1016/j.aca.2005.12.060

29. **B. Bucur**, E. Mallat, A. M. Gurban, Y. Gocheva, C. Velasco, J. L. Marty, T. Noguer: "*Strategies to develop malic acid biosensors based on malate quinone oxidoreductase (MQO)*", Biosensors and Bioelectronics, 21(12), 2290-2297, 2006; DOI: 10.1016/j.bios.2005.10.022

30. **B. Bucur**, M. Dondoi, A. F. Danet, J.-L. Marty: "*Insecticide identification using a FIA system with biosensors based on various cholinesterases*", Analytica Chimica Acta, 539, 195-201, 2005; DOI: 10.1016/j.aca.2005.03.026

31. **B. Bucur**, A. F. Danet, J.-L. Marty: "*Cholinesterase immobilisation on the surface of screen-printed electrodes based on Concanavalin A affinity*", Analytica Chimica Acta, 530(1), 1-6, 2005; DOI: 10.1016/j.aca.2004.09.009

32. **B. Bucur**, A. F. Danet, J.-L. Marty: "*Versatile method of cholinesterase immobilisation via affinity bonds using Concanavalin A applied to the construction of a screen-printed biosensor*", Biosensors and Bioelectronics, 20(2), 217-225, 2004; DOI: 10.1016/j.bios.2004.02.024

33. **B. Bucur**; S. Andreescu; J.-L. Marty: "*Affinity Methods to Immobilize Acetylcholinesterases for Manufacturing Biosensors*", Analytical Letters, 37(8), 1571 – 1588, 2004; DOI: 10.1081/AL-120037588

34. F. Danet, **B. Bucur**, M.C. Cheregi, M. Badea, S. Serban: "*Spectrophotometric determination of organophosphoric insecticides in a FIA system based on AChE inhibition*", Analytical Letters, 36(1), 59-73, 2003; DOI: 10.1081/AL-120017263

<u>Articole de rang B:</u>

1. A. Chira, **B. Bucur**, T. Galaon, G.. Radu: "*Study of the synthesis and environmental removal of 4,4'-dipyridine derivatives*", Environmental Engineering and Management Journal,14(2), 269-275, 2015

2. O. I. Covaci, **B. Bucur**, L. Galateanu, F. Craciunoiu, G. L. Radu: "*Construction, activation and modification of platinum microelectrodes for (bio)sensors development*", Digest Journal of Nanomaterials and Biostructures, 6(2), 731-738, 2011

3. M.P. Bucur, **B. Bucur**, J. L. Marty, G. L. Radu: "*In vitro investigation of anticholinesterase activity of four biochemical pesticides: spinosad, pyrethrum, neem bark extract and veratrine*", Journal of Pesticide Science, 39(1), 48–52, 2014 DOI: 10.1584/jpestics.D13-062 (technical note)

4. **B. Bucur,** M. P. Bucur, G. L. Radu, "*Improvement of the storage stability for biosensors based on alcohol oxidase immobilized by entrapment in a photopolymerisable matrix*", Rev. de Chimie, 58(11), 1145-1148, 2007

5. I. Bineva, R. Voicu, A. Dinescu, R. Gavrila, R. Muller, D. Esinenco, **B. Bucur**, M. Diaconu, L. G Radu: "*SiO2 microcantilevers designed for biosensing: Experiments and Simulations*", Romanian Journal of Information Science and Technology, 10(1), 13-23, 2007

6. **B. Bucur**, M. C. Icardo, J. M. Calatayud: "*Spectrophotometric determination of ammonia by an rFIA assembly*", Rev. Roum. Chim., 52(2), 101-108, 2006

7. M. P. Dondoi, A. F. Danet, **B. Bucur**, M. C. Cheregi: "*Organophosphorus pesticide determination with a potentiometric biosensor based on acetylcholinesterase*", Rev. de Chimie, 56, 4, 327-330, 2005

8. A. Radu, **B. Bucur**, M. Cheregi, A. F. Danet, S. Kalinowski*: "Spectrometric determination of phenols from waters using an automated flow injection analysis system*", Rev. de Chimie, 52, 1-2, 2001

Capitole in carti si articole tip review:

1. M. P. Bucur, M. C. Radulescu, G. L. Radu, **B. Bucur**: "*Cavitation-Effect-Based Treatments and Extractions for Superior Fruit and Milk Valorisation*" Molecules 2023, 28, 4677, DOI: 10.3390/molecules28124677
2. **B. Bucur**, C. Purcarea, S. Andreescu, A. Vasilescu: "*Addressing the selectivity of enzyme biosensors: Solutions and perspectives*", Sensors, 21(9),3038, 2021, DOI: 10.3390/s21093038
3. **B. Bucur**, F.-D. Munteanu, J.-L.Marty, A. Vasilescu: "*Advances in enzyme-based biosensors for pesticide detection*", Biosensors, 8(2),27, 2018 DOI: 10.3390/bios8020027
4. **B. Bucur**, S.I. Hosu, A. Vasilescu: „*Biosensors for Characterisation of Bioactive Compounds from Wines*", Frontiers in Bioactive Compounds, 2016, Vol. 1, 147-189 (Constantin Apetrei) ed. Bentham Science Publishers. ISSN: 2468-6395
5. **B. Bucur**: "*Technological Barriers in the Use of Electrochemical Microsensors and Microbiosensors for in vivo Analysis of Neurological Relevant Substances*", Current Neuropharmacology, 10(3), 197-211, 2012 DOI: 10.2174/157015912803217350
6. M. P. Bucur, **B. Bucur**, G. L. Radu: "*Metoda enzimatica de analiza a L-cisteinei fara interferente din partea compusilor tiolici*", Tehnici experimentale in bioanaliza, Vol IX, Coord. G. L. Radu, Ed. Printech, ISBN 978-606-521-869-7, pag 57-72, 2012
7. **B. Bucur**, M. Bucur, G. L. Radu: "*Retea de biosensori amperometrici pentru analiza simultana a metanolului si etanolului*", Tehnici experimentale in bioanaliza, Vol VII, Coord. G. L. Radu, Ed. Printech, ISBN 978-606-521-078-3, pag 1-29, 2008
8. S. Andreescu, **B. Bucur**, J. L. Marty: "*Affinity Immobilization of Tagged Enzymes*", Immobilization of Enzymes and Cells, Second Edition, Coord: J. M. Guisan, Humana Press, ISBN 1-58829-290-8, 2006
9. **B. Bogdan**, M. Campas, B. Prieto-Simon, S. Andreescu, J. L. Marty: "*Enzymatic biosensors for screening carbamate insecticides: Application to environmental and food monitoring*", Ecological Chemistry and Engineering, 13(5), 339-348, 2006
10. **B. Bucur**, A. Danet, J. L. Marty, G. L. Radu: "*Metode de analiza in flux*", Elemente de bioelectroanaliza, Coord. G. L. Radu, Ed. Printech, ISBN 973-718-367-3, pag 107-132, 2005
11. M. Campas, **B. Bucur**, S. Andreescu, J.-L. Marty: "*Application of oriented immobilisation methods to enzyme sensors*", Current Topics in Biotechnology, 1, 95-107, 2004

Brevete nationale

1. Cerere brevet A00387/16.06.2026 C. Radulescu, M.P. Bucur, **B. Bucur**, A. Teban-Man, M. D. Nicoară, H. L. Banciu: "*Biosenzor bienzimatic pentru screeningul prezentei insecticidelor si guanitoxinei într-o singură măsurătoare din probe de apă*"
2. Cerere brevet A00231/10.06.2025 C. Radulescu, M.P. Bucur, **B. Bucur**, G.L. Radu: „*Electrozi screen-printati de aur modificati prin electrodepunere cu un strat organic de grupari isotiocianat pentru analiza sensibila a ionilor de fier (II) si plumb (II)"*
3. Patent RO33210B1/2022 E. A.-M Rusen, A. Diacon, A. Mocanu, E. Bacalum, M. Cheregi, V. David, **B. Bucur**, P.M. Bucur, G.L. Radu:. „*Polimer imprentat molecular, obţinut prin polimerizare în masă pentru nitrofurantoină pentru realizarea de coloane de extractive în faza solidă şi senzori electrochimici*"
4. Patent No: RO125232-B1/2012. **B. Bucur**, M. P. Bucur, G. L. Radu, C. Radulescu "*Metoda pentru determinarea concentratiilor de methanol si etanol din amestecuri fara separarea analitilor*"
5. Patent No: RO127566 B1/2013 L. A. Galateanu, M. Bazu, E. Virgil, O. I. Covaci, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Microbiosenzor enzymatic pentru detectia insecticidelor organofosforice*"
6. Patent No: RO127776 B1/2016 O. I. Covaci, B. Bucur, M. P. Bucur, G. L. Radu: "*Metoda pentru determinarea rapida a acroleinei*"

Comunicari orale:

1. M.P. Bucur, M.C. Radulescu, **B. Bucur**, M.D. Nicoara, A. Teban-Man, H. L. Banciu: "*Butyrylcholinesterase biosensor for guanitoxin screening in cyanobacterial blooms*" DANUBIUS-RO 2026 , Bucuresti, Romania, 7-8 iulie 2026

2. M.P. Bucur, M.C. Radulescu, **B. Bucur**, A. Teban-Man, M.D. Nicoara, H. L. Banciu, G. L. Radu: "*Bienzymatic biosensors for electrochemical screening of neurotoxic compounds based on acetylcholinesterase and butyrylcholinesterase*", XXIX Transfrontier Meeting on Sensors and Biosensors (TMSB 2025), Tarragona, Spain, 18-19 September 2025

3. M.P. Bucur, M.C. Radulescu, **B. Bucur**, A. Teban-Man, M.D. Nicoară, H. L. Banciu, G. L. Radu: "*Neurotoxic compounds screening using biosensor with co-immobilized acetylcholinesterase and butyrylcholinesterase on electrodes modified with CuNPs and stabilized Prussian blue*", 11th international workshop on biosensors for food safety and environmental monitoring, Marrakech-Morocco- October 3-5, 2024

4. P. Bucur, **B. Bucur**, Gabriel Lucian Radu: "*Fast detection of acrylamide based on amperometric measurements using glutathione S-transferase*", 8th international workshop on biosensors for food safety and environmental monitoring, Rabat-Morocco- October 12 - 14, 2017

5. M. C. Radulescu, M. P. Bucur, **B. Bucur**, G. L. Radu: "*Stable Prussian blue-copper modified (micro)electrodes for sensitive enzymatic biosensors based on oxidases*", 7th International Workshop on Biosensors for Food Safety and Environmental Monitoring, Erfoud, Morocco, November 19 - 21, 2015

6. A. Chira, **B. Bucur**, T. Galaon, G.L. Radu: "*Study of the synthesis and degradation of 4.4'-dipyridine derivatives*",2nd International Conference on Chemical Engineering ICCE2014, Iași, Romania, November 5 - 8, 2014

7. M. C. Radulescu, **B. Bucur**, M.P. Bucur, G. L. Radu: "*Biosensor Based on Inhibition of Monoamine Oxidases A and B for Detection of B-Carbolines"*, ELSEDIMA International Conference – 18 – 19 September 2014, Cluj-Napoca, Romania

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9. A. Chira, **B. Bucur**, M.C. Radulescu, G.L. Radu: "*Electrochemically modified electrodes with synthesized 4,4'-bipyridine derivatives*", 3th Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences "IC-ANMBES 2014", Brasov, Romania, 14-15 June 2014

10. M.P. Bucur, **B. Bucur**, M.C. Radulescu, G.L. Radu: "*Low interferences determination of antioxidant capacity based on xanthine oxidase and mediated amperometric measurements in reduction mode*", 7th Symposium of the Analytical Division of the Portuguese Society of Chemistry, Coimbra, Portugal, 14-15 April 2014

11. M. C. Radulescu, **B. Bucur**, M. P. Bucur, G. L. Radu: "Bi-*enzymatic Biosensor for Rapid Detection of Aspartame in Commercial Products*", Sixth International Workshop on "Biosensor for food Safety and Environmental Monitoring", Essaouira-Morocco- 03 - 05 October, 2013

12. O. I. Covaci, **B. Bucur**, Gabriel Lucian Radu: "*Cholinesterase Immobilization on Pt Microelectrodes Based on Diazonium Chemistry*", XV Rencontre Transfrontalière Capteurs et Biocapteurs, 16-17 Sept. 2010, Sant Carles de la Ràpita, Spain

13. **B. Bucur**, M. Lazerges, H. Perrot, E. Antoine, C. Compère: "*Acoustic Characterization of DNA Hybridization. Application to the Detection of Toxic Elements*", 213th ECS Meeting, 18-22 May 2008, Phoenix, USA

14. **B. Bucur**: "*Neurotoxic insecticides analysis based on AChE inhibition using heterogenous oxidation of the analyte*", Int. Conf. New EU Member States and the Security Research, Bucharest, Roumanie, 23-24 November 2006

15. B. Prieto-Simon, A.-M. Gurban, **B. Bucur**, E. Mallat, T. Noguer, J.-L. Marty: "*Different strategies for developing L-malate biosensors*". Dixième Rencontre Transfrontalière Capteurs et Biocapteurs, Albi (France), 15-16 Septembre 2005

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17. **B. Bucur**, A.F. Danet, D. Fournier, J. L. Marty: "*Sensitive carbamate detection using screen-printed electrodes with engineered Drosophila melanogaster acetylcholinesterases*", The 8th World Congress on Biosensors, Granada, Spain, 24-26 May 2004

18. M. Badea, N. Taus, M. Bandac, A. Plotogea, G. Coman, A. Brezina, L. Dima, A-M. Gurban, **B. Bucur**, S. Gocan, D. Fournier and J-L. Marty, "*Studies regarding biosensors that use genetic modified cholinesterase for some pollutant detection*", V- congres National de Farmacologie, Terapeutica si Toxicologie Clinica, Calmanesti, Romania, 9-12 June 2004

19. **B. Bucur**, S. Andreescu, J. L. Marty, *"Affinity Methods To Immobilize Acetylcholinesterases For Manufacturing Biosensors",* International Workshop on "Biosensors for Food Safety and Environmental Monitoring", Marrakech, Morocco, 9-11 Oct. 2003

20. A. F. Danet, S. Serban, **B. Bucur***: "FIA Assembly for Organophosphoric Insecticides Determination in Waters by Utilisation of Acetylcholinesterase"*, 7th International Symposium on Analytical Chemistry KAC 2001, Bucuresti, Romania, 26-29 Sept., 2001

21. A. Povarna, C. Ceausu, M. Mihailescu, A. Visan, R. Bucur, **B. Bucur**: *"The monitorization of ARPECHIM-Pitesti petrochemical activity impact on the quality on the Dambovnic River water in period 1990-1998"*, First national conference oil and pollution, Ploiesti, Romania, 1999

<u>Prezentări cu poster:</u>

1. B. Bucur, M.C. Radulescu, M.P. Bucur, G. L. Radu: "*Electrochemical sensors based on phenyl isothiocyanate diazonium salts for toxic compounds detection in complex samples*", XXII European Conference on Analytical Chemistry Euroanalysis, 01-04.09.2025, Barcelona, Spain

2. M.P. Bucur, M.C. Radulescu, **B. Bucur**, A. Teban-Man, M. D. Nicoara, H. L. Banciu, G. L. Radu: "*Acetylcholinesterase and butyrylcholinesterase bienzymatic biosensors for electrochemical screening of neurotoxic compounds*", 35th Anniversary World Congress on Biosensors, 18-24.05.2025, Lisabona, Portuga

3. M.P. Bucur, M.C. Radulescu, **B. Bucur**, A. Teban-Man, M. D. Nicoară, H. L. Banciu, G. L. Radu: "*Acetylcholinesterase and butyrylcholinesterase bienzymatic biosensors for electrochemical screening of neurotoxic compounds*", 35th Anniversary World Congress on Biosensors, 18-24.05.2025 la Lisabona, Portugalia

4. M.C. Radulescu, M.P. Bucur, **B. Bucur**, G. L. Radu: "*Electrochemical method for dopamine and dopamine sulfate discrimination based differential measurements with a bioelectrode system using an arylsulfatase biosensor*", 35th Anniversary World Congress on Biosensors, 18-24.05.2025 la Lisabona, Portugalia

5. M.P. Bucur, M.C. Radulescu, **B. Bucur**, G. L. Radu: "*Insecticides screening using biosensor with co-immobilized acetylcholinesterase and butyrylcholinesterase*", Littoral24 - the 17th EUCC Conference, 4-27.09.2024, Constanta, Romania

6. M.P. Bucur, M.C. Radulescu, G. L. Radu, **B. Bucur**: "*Cholinesterase Biosensor for neurotoxin monitoring based on highly stable Prussian blue-copper mediator electrodeposited on diazonium modified surfaces*", ISEAC-41 International Conference on Environmental & Food Monitoring, 20-24 November 2023, Amsterdam

7. **B. Bucur**, C. Purcarea, A. Vasilescu:" *Selectivity improvement of the inhibition-based biosensors. application to aldehyde dehydrogenase-based detection of thiram*", poster, XVIIIth International Symposium PRIOCHEM "Priorities of Chemistry for a Sustainable Development" October 26-28, 2022, Bucharest, Romania

8. M.P. Bucur, **B. Bucur**, G.L. Radu: "*Immobilization of cholinesterase in sol-gel protective microporous matrix for insecticide detection in organic-solvents mixtures*", Electrochemistry for Nano & Nano for Electrochemistry ElecNano8, 29-31 May 2018, Nancy, France

9. M.C. Radulescu, M.P. Bucur, **B. Bucur**, G.L. Radu: "*Carbon fiber composite paper electrodes modified with stable Prussian blue-copper used for bienzymatic determination of sweeteners in food*", Electrochemistry for Nano & Nano for Electrochemistry ElecNano8, 29-31 May 2018, Nancy, France

10. A. Chira, **B. Bucur**, M. P. Bucur, G. L. Radu: "*Electrode-modified with nanoparticles composed of 4,4'-bipyridine-silver coordination polymer for sensitive determination of Hg(II), Cu(II) and Pb(II)*" , 8th International Workshop on Surface Modification for Chemical and Biochemical Sensing – SMCBS'2017, Zelechów, Poland, November 3-7, 2017

11. Radulescu M.C., **Bucur B.**, Bucur M.P., Radu G.L.: "*Amperometric biosensor for the determination of aspartame in soft drinks*", Simpozionul International Prioritatile chimiei pentru o dezvoltare durabila Priochem *IX*, Bucharest, Romania, Octomber 30-31, 2013

12. A. Chira, **B. Bucur,** M.C. Radulescu, G.L. Radu: "*Synthesis of 4,4'-Dipyridine Derivatives for Immobilization on the Electrode Surface*", XXII International Symposium on Bioelectrochemistry and Bioenergetics, Bochum, Germany 17-22 March 2013

13. A. Chira, **B. Bucur,** G.L. Radu: "*Use of N-(p-Nitrobenzyl)-4.4'-Dipyridine for Electrodes Modification Based on Diazonium Chemistry*", The 63rd Annual Meeting of the International Society of Electrochemistry ISE, Prague, Czech Republic, 19-24 August, 2012

14. O.I. Covaci, **B. Bucur,** G.L. Radu: "*Investigation of the inhibition of dehydrogenases by acrolein."*, 37th International Symposium on Environmental Analytical Chemistry ISEAC-37, Anvers, Belgia, 22-25 Mai 2012

15. M.P. Bucur, **B. Bucur**, G.L. Radu, J.-L. Marty: "*Characterisation of the biopesticide - acetylcholin esterases interactions"*, 37th International Symposium on Environmental Analytical Chemistry ISEAC-37, Anvers, Belgia, 22-25 Mai 2012

16. M.C. Rădulescu, A. Chira, **B. Bucur**, G.L. Radu:"*Evaluation of wheat flour quality based on QCM monitoring of lectin–carbohydrate interaction*", 5th International workshop on Biosensors for Food Safety and Environmental Monitoring, Ouarzazate, Morocco, 06-08 October 2011

17. M. Lecroq, **B. Bucur**, G.L. Radu, J.L. Marty, M.P. Bucur:" *Study of potential interactions between bio-pesticides and acetylcholinesterases*", 5th International workshop on Biosensors for Food Safety and Environmental Monitoring, Ouarzazate, Morocco, 06-08 October 2011

18. O. I. Covaci, **B. Bucur**, G.L. Radu: "*Acrolein analysis method based on inhibition of alcohol dehydrogenase*", 5th International workshop on Biosensors for Food Safety and Environmental Monitoring, Ouarzazate, Morocco, 06-08 October 2011

19. O.I. Covaci, A. Sassolas, G. Alonso, **B. Bucur**, G.L. Radu, J.-L. Marty: "*Artificial neural network for LR and YR microcystin discrimination based on protein phosphatases*", 18-22 September 2011, Chania, Grecia

20. G. García-Martinez, E.A. Bustabad, H. Perrot, C. Gabrielli, **B. Bucur**, , M. Lazerges, D. Rose, L. Rodriguez-Pardo, J. Fariña, C. Compère, A. Arnau: "*Design and implementation of a DNA biosensor based on a 50MHz QCM electronic oscillator circuit*", 35th Annual Conference of the IEEE Industrial Electronics Society, IECON 2009; Porto, Portugal, 3-5 November 2009

21. E.A. Bustabad, G. García, L. Rodriguez-Pardo, J. Fariña, H. Perrot, C. Gabrielli, **B. Bucur**, M. Lazerges, D. Rose, C. Compère, A. Arnau: "*A biosensor for detection of DNA sequences based on a 50MHz QCM electronic oscillator circuit*" IEEE SENSORS 2009, Christchurch, New Zealand, 25-28 October 2009

22. **B. Bucur**, M. Bucur, C. Radulescu, G. L. Radu: "*Détection de la l-cystéine et glutathion dans des suppléments alimentaires en utilisant des biocapteurs avec tyrosinase sans interférences cause par des thiols*", Journées d'Électrochimie, 6-10 juillet 2009, Sinaia, Roumanie

23. O. I. Covaci, **B. Bucur**, M. Bucur, G. L. Radu: "*Utilisation du p-nitrobenzène diazonium pour greffer des groupes amines sur des microélectrodes pour l'immobilisation des enzymes*", Journées d'Électrochimie, 6-10 juillet 2009, Sinaia, Roumanie

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25. B. Bucur, M. P. Bucur, G. L. Radu: "*Improvement of storage stability for amperometric biosensors based on alcohol oxidase immobilized by entrapment in a photopolymerisable matrix*", 12th International Conference On Electroanalysis, ESEAC 2008, 16-20 june 2008, Prague, Czech Republic

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28. M. P. Dondoi, **B. Bucur**, A.F. Danet, J.L. Marty, G. L. Radu: "*Amperometric biosensor for insecticide analysis in buffer containing water miscible organic solvents after heterogeneous extraction and heterogeneous oxidation of the analyte",* 11th International Conference on Electroanalysis ESEAC-Bordeaux, France, 11-15 June 2006

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